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Entrepreneurial entry: The role of social media

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ABSTRACT

Despite the exponential growth of social media use, whether and how social media use may affect entrepreneurial entry remains a key research gap. In this study we examine whether individuals' social media use influences their entrepreneurial entry. Drawing on social network theory, we argue that social media use allows individuals to obtain valuable social capital, as indicated by their offline social network, which increases their entrepreneurial entry. We further posit the relationship between social media use and entrepreneurial entry depends on individuals' trust propensity based on the nature of social media as weak ties. Our model was supported by a nationally representative survey of 18,873 adults in China over two years. As the first paper on the role of social media on entrepreneurial entry, we hope our research highlights and puts forward research intersecting social media and entrepreneurship.

1. Introduction

Social media, defined as online social networking platforms for individuals to connect and communicate with others (e.g., Facebook), has attracted billions of users. An emerging body of literature suggests that social media enables entrepreneurs to obtain knowledge about customers or opportunities, mobilize resources to progress their ventures, and manage customer relationships after venture launch (Cheng & Shiu, 2019; De Zubielqui & Jones, 2020; Drummond et al., 2018). Further, social media allows entrepreneurs to efficiently manage their online relationships and reinforce their offline relationships (Smith et al., 2017; Thomas et al., 2020; Wang et al., 2019). Despite much research on the impact of social media on the launch and post-launch stages of the entrepreneurial process (Bird & Schjoedt, 2009; Gruber, 2002; Ratinho et al., 2015), there is little research on the impact of social media on the pre-launch stage, the first of the three stages of the entrepreneurial process (Gruber, 2002). Despite the popularity of social media, it remains unclear whether and how social media affects individuals at the pre-launch stage of the entrepreneurial process, given social media consists of weak ties and substantial noise from false, inaccurate or even fake information, which may or may not benefit its users.

In this study, we aim to contribute to the literature by investigating whether individuals' social media use affects their entrepreneurial entry based on social network theory. We argue that a higher social media use will allow an individual to develop a larger online social network and accumulate a greater amount of social capital, which facilitates entrepreneurial entry. A larger social network may facilitate individuals' information and knowledge seeking activities (Grossman et al., 2012; Miller et al., 2006), which have a significant impact on their ability to generate and implement entrepreneurial ideas in the pre-launch stage (Bhimani et al., 2019; Cheng & Shiu, 2019; Orlandi et al., 2020). Social media, unlike offline face-to-face social networks, allows a user to develop a large social network beyond their geographical area without incurring significant effort and monetary cost (Pang, 2018; Smith et al., 2017). The large social network arising from social media further enables social media users to build larger offline networks beyond their geographical proximity. Hence, we argue that individuals' social media use has a positive impact on their offline network, which facilitates their entrepreneurial entry. However, social media is dominated by weak ties, and individuals with low trust propensity may not trust other online users easily so they are cautious about online information and knowledge. Thus, we propose that trust propensity, an individual's tendency to believe in others (Choi, 2019; Gefen et al., 2003), moderates the relationship between social media use and entrepreneurial entry. Fig. 1 displays the proposed model.

We assessed the proposed model on a publicly available dataset of China Family Panel Studies (CFPS), which consists of a sample of nationally representative adults. Our findings reveal that social media use

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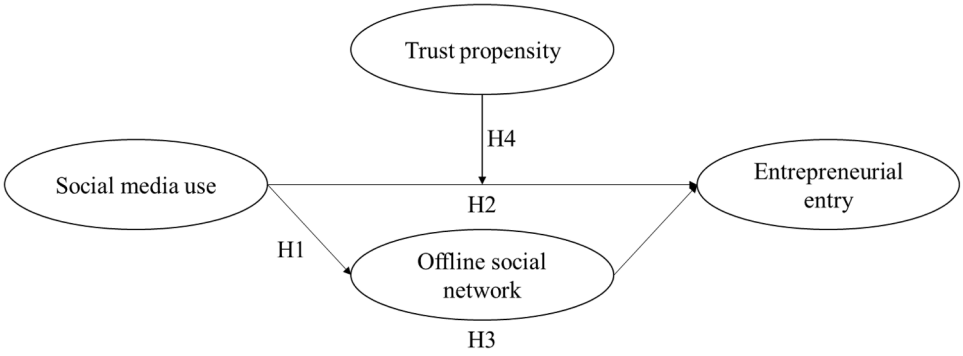

Fig. 1. The proposed model.

has a positive impact on entrepreneurial entry with individuals' offline network serving as a partial mediator. Further, the findings confirm that individuals' trust propensity moderates the relationship between their social media use and entrepreneurial entry, with the relationship becoming weaker for individuals with high trust propensity.

Our study makes several important contributions to the literature. First, we contribute to the emerging entrepreneurship literature on an individual's transition to entrepreneurship by identifying factors contributing to the actual transition (Mahto & McDowell, 2018). The identification of social media use addresses Mahto and McDowell's (2018) call for more research on novel antecedents of individuals' actual transition to starting entrepreneurship. To the best of our knowledge, this is the first study on the role of social media on individuals' entrepreneurial entry using social network theory. The research on social media in entrepreneurship area has focused on post-launch phases of entrepreneurship (Cheng & Shiu, 2019; Drummond et al., 2018; Mumi et al., 2019), while research on individuals at the pre-launch stage of the entrepreneurial process is lacking. Second, our study specified a mechanism for the impact of individuals' social media use on entrepreneurial entry via their offline network and used instrumental variables to help infer the causality. Yu et al. (2018, p. 2313) noted that "Specifying mediation models is essential to the advancement and maturation of particular research domains. As noted, Mathieu et al. (2008: 203) write, 'developing an understanding of the underlying mechanisms or mediators (i.e., M), through which X predicts Y, or X → M → Y relationships, is what moves organizational research beyond dust-bowl empiricism and toward a true science.'" Third, we contribute to the limited stream of research in the entrepreneurship literature on the networking of individuals in the pre-launch phase which has focused on networking offline (Dimitratos et al., 2014; Johannisson, 2009; Klyver & Foley, 2012). Instead, we offer a clearer picture of networking for entrepreneurship by connecting the literature on online social media use (Fischer & Reuber, 2011; Smith et al., 2017) with offline social networks and entrepreneurial entry.

The paper is organized as follows. The next section, Section 2, provides an overview of the social capital theory and associated literature used to construct arguments for hypothesis development. Section 3, data and methods, reports the context, method, and the variables. Section 4 reports the results of the statistical analysis, instrumental variable analysis to address endogeneity concerns, and an assessment of robustness checks. Section 5 discusses the study findings, outlines key study limitations, and provides guidance for future research and Section 6 concludes.

2. Theoretical framework and hypotheses

2.1. Theoretical framework

Social capital theory (Rutten & Boekema, 2007) is a popular theoretical framework among management scholars. More recently, the theory has been increasingly used by entrepreneurship scholars to explain behaviors at the levels of both the individual (e.g., entrepreneurs) and firm (e.g., new ventures) (Dimitratos et al., 2014; Klyver & Foley, 2012; McAdam et al., 2019). According to the theory, the network of an individual has a significant influence on an individual's behavior (e.g., seeking a specific job) and outcomes (e.g., getting the desired job). In the theory, the network represents important capital, referred to as social capital, that produces outcomes valued by individuals (Mariotti & Delbridge, 2012). Social capital allows an individual to obtain benefits by virtue of their membership in the social network. The underlying assumption of social capital is, "It's not what you know, it's who you know" (Woolcock and Narayan (2000), p. 255). For example, people with higher social capital are more likely to find a job (Granovetter, 1995) or progress in their career (Gabby & Zuckerman, 1998). For firms, social capital offers the ability to overcome the liability of newness or resource scarcity (Mariotti & Delbridge, 2012).

In entrepreneurship literature, scholars have used social capital to explain resource mobilization and pursuit of an opportunity by both entrepreneurs and small firms (Dubini & Aldrich, 1991; Stuart & Sorenson, 2007). At the individual level, entrepreneurs embedded in a network are more likely to overcome challenges of resource scarcity and act promptly to launch a venture to capitalize on an opportunity (Klyver & Hindle, 2006). For example, high social competence entrepreneurs establish strategic networks to obtain information, resources and more strategic business contacts (Baron & Markman, 2003). Mahto, Ahluwalia and Walsh (2018) supported the role of social capital by arguing that entrepreneurs with high social capital are more likely to succeed in obtaining venture capital funding. Further, entrepreneurship scholars have argued that social networks influence entrepreneurs' decisions and the probability of executing a plan (Davidsson & Honig, 2003; Jack & Anderson, 2002; Ratinho et al., 2015). In women entrepreneurs, the presence of a robust social network is a key determinant of success (McAdam et al., 2019). Research suggests that the extent of a social network determines which resources entrepreneurs can obtain (Jenssen & Koenig, 2002; Witt, 2004).

In the entrepreneurial context, scholars have also examined the influence of social networking at the firm level. For example, new and small firms often use a strong social network to overcome the liability of newness or smallness to pursue growth opportunities (Galkina & Chetty, 2015; Mariotti & Delbridge, 2012). Entrepreneurial ventures with limited resources often rely on their networks to obtain information and knowledge about consumers, competitors and networks in a foreign market (Lu & Beamish, 2001; Wright & Dana, 2003; Yeung, 2002). In the internationalization context, it is almost impossible for entrepreneurial firms to enter a foreign market without a robust social network (Galkina & Chetty, 2015). It is well documented that new firms commonly use strategic networking for resources and capabilities (e.g., Research and Development) unavailable within the firm.

The research on social networks in the entrepreneurship area is robust, but is focused almost exclusively on traditional offline social

networks with limited attention to the dominant online social media. As offline social networks and online social networks differ significantly in terms of strength of ties (i.e., weak ties vs. strong ties) between network associates (Filiposka et al., 2017; Rosen et al., 2010; Subrahmanyam et al., 2008), empirical findings from traditional offline social networks may not be applicable to online social networks because offline social networks are dominated by strong ties while online social media are dominated by weak ties (Filiposka et al., 2017), and strong ties are based on a high degree of trust and reciprocity while weak ties have low trust and reciprocity. This significantly limits our understanding of entrepreneurial phenomena in the context of online social media. Further, the research on social networks has also paid limited attention to the pre-launch phase of the entrepreneurial process, focusing mostly on entrepreneurs and established entrepreneurial ventures. Finally, as offline social networks, which have strong ties, are the main context of the literature, the role of individual trust propensity remains unexplored as well. This offers a unique opportunity to investigate the role of social media and individuals' trust propensity in the pre-launch phase of the entrepreneurial process.

2.2. Social media use and offline social network

The widespread adoption of the internet has led to an exponential growth in social media around the world. We refer to social media as "online services that support social interactions among users through greatly accessible and scalable web- or mobile-based publishing techniques" (Cheng & Shiu, 2019, p. 38). Social media, using advanced information and communication technologies, offers its users the ability to connect, communicate, and engage with others on the platform (Bhimani et al., 2019; Kavota et al., 2020; Orlandi et al., 2020). Some of the most popular social media companies in the world are Facebook, Twitter, QQ, and WeChat.

The large number of users coupled with other benefits of social media platforms, such as marketing, engagement, and customer relationship management, have attracted firms and organizations to these platforms. For example, firms have used social media to build an effective business relationship with their customers (Steinhoff et al., 2019), create brand loyalty (Helme-Guizon & Magnoni, 2019), and engage in knowledge acquisition activities (Muninger et al., 2019). Firms have also started adopting social media to enhance their internal operations by strengthening communication and collaboration in teams (Raghuram et al., 2019). Thus, social media and its impact on firms and their environment has intrigued business and management scholars driving growth of the literature.

Recently, entrepreneurship scholars have begun exploring the impact of social media on entrepreneurial phenomena. Limited research on social media in entrepreneurship suggests that social media allows entrepreneurial firms to enhance exposure (Mumi et al., 2019), mobilize resources (Drummond et al., 2018), and improve innovation performance (De Zubielqui & Jones, 2020). This limited research, while enlightening, is devoted almost entirely to the post-launch stage of the entrepreneurial process, where a start-up is already in existence. The impact of social media on other stages of the entrepreneurial process, especially the launch stage (i.e., entrepreneurial entry), remains unexplored and is worthy of further scholarly exploration. For example, even though we know that social media can offer new effectual pathways for individuals by augmenting their social network, whether social media influences entrepreneurial entry or offline social networks remains unexplored. Thus, our goal in this study is to address the gap in our understanding of the impact of social media on entrepreneurial entry.

A social network refers to a network of friends and acquaintances tied with formal and informal connections (Barnett et al., 2019), that can exist both online and offline. Social media is useful for creating, expanding and managing networks. Research suggests social media can be used to initiate weak ties (e.g., to start a new connection) and manage strong ties (i.e., to reinforce an existing connection) (Smith et al., 2017). Similar to social interactions in a physical setting, people can interact with others and build connections in the virtual world of social media, which eliminates the need for a physical presence in the geographical proximity of the connection target. The lack of requirement for geographical proximity with the in-built relationship management tools in social media allows a user to connect with a significantly larger number of other users regardless of their physical location. The strength of relationships among connected users in social media is reflected by the level of interaction among them; users in a strong connection have a higher level of interaction and vice versa. However, given the probability of a much larger number of connections in social media, dominance of weak ties is accepted. When connected users, either online or offline, in a network reinforce their connection by enhancing their level of interaction in both mediums (i.e., offline and online), they strengthen ties. For example, when two connected users in social media engage in offline activities, they may enhance their offline social tie through the joint experience (Wang et al., 2019). Research also informs that social media use helps reinforce or maintain the strength of relationships among offline friends (Thomas et al., 2020). Social media allows people to communicate with their offline friends instantly and conveniently without the need to be in geographical proximity (Barnett et al., 2019). The opportunity to have a higher level of interaction at any time regardless of physical location offers social media users the ability to manage and enlarge their offline social network. Further, social media can also be used to initiate offline ties directly. In the digital age, users can connect their friends and acquaintances to other friends and acquaintances on social media. Social media platforms also recommend connections to users based on their user profile, preferences, and online activities to generate higher user engagement. For example, in China, when a user intends to connect with a person known to their friends or connections, they can ask their friends for a WeChat name card recommendation. Once connected online, users can extend their connection to their offline networks as well. As a result, higher social media use may enhance a user's offline social network. Thus, we hypothesize:

H1. *Social media use of a user is positively associated with their offline social network.*

2.3. Social media use and entrepreneurial entry

Entrepreneurship, a context-dependent social process, is the exploitation of a market opportunity through a combination of available resources by entrepreneurs (Shane & Venkataraman, 2000). The multistage process consists of: (a) the pre-launch stage, involving opportunity identification and evaluation, (b) the launch stage, involving business planning, resource acquisition, and entrepreneurial entry, and (c) the post-launch stage, involving venture development and growth (Gruber, 2002).

Our focus in this study is on entrepreneurial entry, which is the bridge between the pre-launch and launch stages of the entrepreneurial process, representing the transition from an individual to an entrepreneur (Mahto & McDowell, 2018; Yeganegi et al., 2019). Entrepreneurial entry requires a viable entrepreneurial idea (i.e., opportunity) and resources (Ratinho et al., 2015; Ucbasaran et al., 2008). Individuals' social networks are important for researching and assessing entrepreneurial ideas (Fiet et al., 2013) and accumulating valuable resources for entrepreneurial entry (Grossman et al., 2012). Research suggests that networks play a crucial role in the success of entrepreneurs and their ventures (Galkina & Chetty, 2015; Holm et al., 1996). Social networks allow individuals to access information and resources (Chell & Baines, 2000). A larger social network allows entrepreneurs and SMEs to overcome resource scarcity for performance enhancement and expansion, especially international expansion (Dimitratos et al., 2014; Johannisson, 2009). Although enlightening,

the prior research on social networks in entrepreneurship has focused only on the traditional offline networks. In the digital age, social media has emerged as the key networking tool and enhanced individuals' ability to significantly enlarge their network and draw a higher social capital. These platforms allow entrepreneurs to efficiently manage both their online and offline networks and relationships (Wang et al., 2019).

Social media has significantly expanded the ability of individuals to network by removing geographical, cultural and professional boundaries. It allows people, separated by physical distance, to overcome the distance barrier to network and manage relations effectively (Alarcón-del-Amo et al., 2018; Borst et al., 2018). This is especially beneficial for an individual searching for entrepreneurial ideas that may be based on practices, trends, or business models emerging in the geographical locations of their network associates. As an example, Jack Ma of Alibaba did not have to travel to the US to stumble upon the idea of an online commerce platform. Social media allowed him to observe and obtain that information through network associates. While social media enlarges the social network of an individual with associates located beyond their geographical location, critics of the platform argue that such networks are mostly made up of weak ties lacking the strong ties of an offline network. However, individuals can still obtain useful and valuable information from abundant weak ties in such social networks (Granovetter, 1973). When accessing the network, the individuals have access to knowledge and information from various domains to inform their entrepreneurial ideas. Further, the efficiency of social media allows for more effective and easy communications with distant individuals (Alarcón-del-Amo et al., 2018). The improved communication with distant network associates allows individuals to strengthen their ties and obtain richer and reliable information. Individuals may also obtain valuable access to new resources or new associates, who may support the formation of their new entrepreneurial venture. The distant network associates could also offer individuals additional resources in the form of entrepreneurial connections to new partners, buyers, suppliers, or talent, which all improve the chance of launching new ventures. It is well known that people, especially venture capitalists and investors, tend to minimize their risk by investing in known entrepreneurs rather than unknown entrepreneurs (Mahto et al., 2018). Thus, we believe social media use is beneficial for entrepreneurial entry.

H2. *Social media use is positively associated with entrepreneurial entry.*

Social media significantly enhances individuals' capability to expand their networks by removing cultural, geographical, and professional boundaries, to manage and strengthen offline social relationships. According to prior research, offline networks can provide the spatially proximate information and resources relevant to entrepreneurial entry (Levinthal & March, 1993; Miller et al., 2006). Social media enhances the efficiency and reduces the transaction cost of communication with offline network associates, allowing individuals to use them for information, knowledge and resource search. A recombination of information and knowledge is key to generating and then evaluating entrepreneurial ideas for entrepreneurial entry. In an offline social network, an individual has a stronger relationship with network associates because of their face-to-face interactions and collective experience in geographical proximity. Further, geographical proximity in an offline social network facilitates relationships in real life by augmenting face-to-face interactions via virtual means (Kim et al., 2019). The additional channel of communication via virtual social media allows individuals to obtain timely and richer information, which may help them benefit from the collective wisdom and capability of their higher social capital (Orlikowski, 2002) to develop entrepreneurial opportunities. The richer information and better access to knowledge and resources all benefit their entrepreneurial entry. Thus, with higher social media use, individuals will have an expanded offline social network, which provides them the resources needed for successful entrepreneurial entry. Therefore, we propose:

H3. *The offline social network mediates the relationship between social media use and entrepreneurial entry.*

2.4. The moderating role of trust propensity

Trust propensity refers to an individual's tendency to trust others (Choi, 2019; Gefen et al., 2003). Trust propensity is a stable personality trait formed early in life through socialization and life experience (Baer et al., 2018; Warren et al., 2014). Like other ingrained personality traits, it affects an individual's behaviour, especially trust, in many situations (Baer et al., 2018; Friend et al., 2018). For example, a customer with a high trust propensity is more likely to trust a salesperson without doubting their integrity (Friend et al., 2018). While trust propensity enables trust, it may leave individuals vulnerable due to reduced monitoring (Wang et al., 2017) and reduced flow of new ideas (Molina-Morales et al., 2011). Furthermore, an individual with a high trust propensity may be inclined to obtain information from others indiscriminately and be locked into relationships. This may influence the individual's information processing capability.

In the literature, trust propensity has attracted the attention of scholars seeking to explain not only the offline behavior of individuals, but also online behavior in social media platforms and virtual communities (Lu et al., 2010; Warren et al., 2014). In social media, network associates are mostly connected through weak ties representing lack of trust and reciprocity. The existence of significant weak ties in social media makes the role of individual trust propensity critical. We believe trust propensity in social media moderates the impact of individuals' social media use on entrepreneurial entry by influencing their ability to network with strangers and known associates. Further, prior findings in the literature suggest that trust influences entrepreneurial information searching and processing (Keszey, 2018; Molina-Morales et al., 2011; Wang et al., 2017). This supports the possibility of trust propensity as the moderator of the link between social media use and entrepreneurial entry.

In social media, the trust propensity of an individual influences their interaction and behavior (Lu et al., 2010). Accordingly, an individual with a high trust propensity is more inclined to trust others. However, the trust in the relationship may not be mutual as the transacting party may lack the same trust propensity. As a result, the individual may fail to generate identical trust from the other individual thereby limiting the benefits of the relationship. With the aid of social media, an individual has the ability to access a large network of weak ties with remote individuals. This may allow the individual to obtain and validate information crucial to formalizing and finalizing an entrepreneurial idea. However, the advantage of higher social capital from access to a large network on social media may be eroded when individuals have a high trust propensity due to multiple factors. First, the network associates of individuals on social media vary significantly in terms of their trust propensity. The variations in the trust propensity of associates may result in them providing information via social media that may not always be reliable. In particular, network associates with low trust propensity may be reluctant to share valuable information. Individuals with high trust propensity will treat a network associate and the information they provide with trust and without suspicion (Peralta & Saldanha, 2014; Wang et al., 2017). As a result, social media users may be exposed to both true and false information from associates. Thus, such individuals are more likely to experience greater obstacles in distinguishing reliable information from unreliable noise, thereby incurring significantly higher information and resource search costs. The higher cost may hinder formation and finalization of an entrepreneurial idea and may hamper entrepreneurial entry. Alternatively, individuals with low trust propensity are more likely to be more cautious (Choi, 2019). Such individuals, due to their cautious attitude, are less likely to experience noise in their information and resource search, and thus may find it easier to distinguish reliable information from

unreliable information. As a result, the cost (i.e., monetary, labor, and time) of obtaining information and resources for such individuals is lower, which may significantly enhance the probability of entrepreneurial entry. Second, in social interactions and transactions trust may trigger a lock-in effect (Molina-Morales et al., 2011). The lock-in effect refers to a scenario where high trust propensity individuals interact only with a few trusted associates on social media. The lock-in effect prevents the individuals from benefiting from a higher social capital on social media. Thus, a lock-in effect may significantly limit individuals' information and resource search to a limited number of associates, which may significantly impair development and formation of their entrepreneurial idea, and ultimately entrepreneurial entry. However, individuals with low trust propensity are less likely to suffer from the lock-in effect thereby increasing their probability of entrepreneurial entry. Thus, we hypothesize:

H4. *Trust propensity moderates the relationship between social media use and entrepreneurial entry*.

3. Data and methods

3.1. Data

We tested our proposed model on a sample of adults in China, a country with the world's largest population and the second highest total Gross Domestic Product. China provides a rich setting for examining the link between social media and entrepreneurial entry for multiple reasons. First, China has experienced exponential growth in entrepreneurship and private enterprise development unleashed by economic transition (He et al., 2019). The resulting entrepreneurial intensity provides a suitable context for investigating entrepreneurial phenomena including entrepreneurial entry. Second, in China the adoption and use of social media is widespread with the world's largest number of users of internet (Li et al., 2020). The major American-based social media platforms, such as Facebook, Twitter, and Instagram, were inaccessible in China at the time of the study (Makri & Schlegelmilch, 2017), and people in China use other social media, such as WeChat, QQ, and Sina WeiBo, which mirror or are similar to the American social media platforms (Li et al., 2020).

Our data is from the surveys of China Family Panel Studies (CFPS). CFPS is a nationally representative longitudinal survey conducted every two years since 2010 by the Institute of Social Science Survey at Peking University (Xie & Hu, 2014). The CFPS covers 95% of the Chinese population in 25 provinces, providing extensive individual- and family-level economic and social life information. The data from CFPS has been validated and used for research in entrepreneurship (Barnett et al., 2019) and other fields (Hou et al., 2020; Sun et al., 2020).

The survey, first conducted in 2010, had three follow-up waves in 2012, 2014, and 2016. Our study used data from the 2014 and 2016 waves, which started including variables on internet activities. The 2014 survey contains 37,147 observations from 13,946 families. We matched the samples in 2014 and 2016 through a unique identifier of the respondents. As our study focuses on the transition of an individual to an entrepreneur, we excluded respondents who had entrepreneurial entry, and our final study sample had 18,873 observations.

3.2. Variables

Entrepreneurial entry. The CPFS survey followed existing literature to operationalize entrepreneurial entry, an individual's entry into entrepreneurship, by whether (s)he started a business or became self-employed (Barnett et al., 2019; Eesley & Wang, 2017). Accordingly, in the study, entrepreneurial entry refers to whether the respondents became entrepreneurs within the two years between the 2014 and 2016 surveys. Specifically, the CPFS surveys had a multiple choice question on employment information, where participants chose their current employment status among: (a) agricultural work for your family, (b) agricultural work for other families, (c) employed, (d) individual/private business/other self-employment, and (e) non-agricultural casual workers. We used option d to operationalize entrepreneurial entry, following Barnett et al. (2019). If the respondent did not choose option d in year 2014 but chose option d in year 2016, (s)he transitioned to self-employment in those two years, and we dummy coded this individual 1 on entrepreneurial entry.

Social media use. A primary use of social media on the internet is socializing (Bhimani et al., 2019; Hu et al., 2018). Social media is the main online platform where people connect to each other and share information (Bahri et al., 2018). The 2014 CPFS survey measured social media use by asking, "In general, how frequently do you use the internet to socialize?". The respondents selected an option from the following: (1) everyday, (2) 3–4 times per week, (3) 1–2 times per week, (4) 2–3 times per month, (5) once per month, (6) once per a few months, and (7) never. As the scale was inverted, we reverse recoded it as 8 minus the selected option to obtain the measure of social media use.

Offline social network. Offline social network refers to an individual's network of associates in the real world. Scholars have used a variety of measures to assess the social network of an individual, including the cost of maintaining the relationship (Du et al., 2015; Lei et al., 2015). In China, the context of our study, a social network is composed primarily of family, friends, and close acquaintances (Barnett et al., 2019). An important means of maintaining such relationships is through exchanging gifts during important festivals, wedding and funeral ceremonies, and other occasions. Thus, scholars have used gift expenses and receipts in the previous year to assess social networks in China (Barnett et al., 2019; Lei et al., 2015). We focused only on expenses incurred on gifts as the cost of maintaining an offline social network. Hence, we operationalized offline social networks by the question on "expenditure on gifts for social relations in the past 12 months" from the 2014 CPFS survey. Given that the expenditure is an amount, we transformed it using its natural log (ln (expenditure + 1)) (Lei et al., 2015).

Trust propensity. Following the guidance of previous studies (Chen et al., 2015; Volland, 2017), the CPFS survey assessed trust propensity by a single item scale that asked the extent to which a respondent trusts others. The respondents indicated their preference on a 0–10 scale. The data for trust propensity is from the 2014 survey.

Controls. In statistical analysis, we controlled for respondent demographics such as gender, age, and education. As age can correlate to people's resource availability, experience, and willingness to assume risk in a nonlinear fashion, we followed prior research to include the squared term of age as a control variable (Belda & Cabrer-Borrás, 2018). Given the possibility of personal and family income influencing an individual's ability to finance a start-up (Cetindamar et al., 2012; Edelman & Yli-Renko, 2010), we included it as a control variable in the analysis. All control variables are from the 2014 survey.

4. Results

4.1. Descriptive statistics and correlations

We report descriptive statistics along with correlations among the study variables in Table 1. Table 1 shows there is significant correlation among study variables, with most of the correlation coefficients below 0.40. The negative correlation between age and social media use, at 0.58, is the only exception. Given the reported correlation among study variables, we rule out the possibility of multicollinearity in the sample. We further confirmed our inference by calculating variance inflation factors (VIF), which were well below the threshold level of 10 with the highest VIF being 1.94.

Table 1
Descriptive statistics and Pearson correlations (n = 18,873).

Variable	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10
1. Entrepreneurial entry	0.036	0.187	1									
2. Social media use	2.243	2.268	0.054***	1								
3. Offline social network	7.674	1.206	0.022***	0.087***	1							
4. Trust propensity	1.905	2.054	0.006	0.109***	-0.007	1						
5. Gender	0.482	0.500	0.035***	0.015**	-0.007	0.102***	1					
6. Age	46.149	16.332	-0.079***	-0.581***	-0.040***	-0.072***	0.020***	1				
7. Age squared	266.732	290.880	-0.027***	0.251***	-0.048***	0.054***	0.013*	0.009	1			
8. Educational level	1.119	0.427	-0.009	0.341***	0.113***	0.125***	0.023***	-0.173***	0.002	1		
9. Personal income	9499.27	19604.99	0.067***	0.287***	0.109***	0.092***	0.198***	-0.203***	-0.125***	0.364***	1	
10. Family income	59948.17	128138.40	0.007	0.086***	0.106***	0.046***	0.002	-0.017**	-0.010	0.136***	0.172***	1

Notes: n refers to the sample size.
* p < 0.10;
** p < 0.05;
*** p < 0.01.

4.2. Hypothesis testing

We used Stata and SPSS to test our hypotheses. In the regression models, we used ordinary least squares regression to predict offline social network and logit regression to predict entrepreneurial entry. We report the results of hypothesis testing in Table 2. In the table, model 1 shows the impact of social media use on offline social network. The regression coefficient suggests that social media use has a positive and significant ($\beta = 0.039$, $p < 0.01$) influence on the offline social network consistent with hypothesis H1. Thus, it provides support for H1.

In Table 2, Models 2 and 3 provide support for hypotheses H2 and H3. The results of model 2 show the main effect of social media use on entrepreneurial entry is significant ($\beta = 0.050$, $p < 0.05$), thus providing support for H2. In model 3, when we add offline social network, the coefficient of social media use decreases ($\beta = 0.047$, $p < 0.05$) and the coefficient of offline social network becomes significant ($\beta = 0.084$, $p < 0.05$). Meanwhile, the Chi-squared statistics suggest that the model improved significantly ($\Delta\chi^2 = 6.04$, $p < 0.05$). The results offer preliminary support for hypothesis H3 (Baron & Kenny, 1986). We further confirm H3 by using the bootstrapping method due to its inherent advantages (Hayes, 2013; Kenny & Judd, 2014; Preacher & Hayes, 2008) over the technique of Baron and Kenny (1986). We apply bootstrapping with model 4 in SPSS PROCESS (Hayes, 2013). With 5000 bootstrapping samples, the results show that social media use has an indirect effect on entrepreneurial entry ($\beta = 0.0033$, 95% confidence interval: 0.0008–0.0065) while the direct effect is also significant ($\beta = 0.0465$, 95% confidence interval: 0.0066–0.0864). Thus, the results support hypothesis H3.

The moderating effect of trust propensity is also reported in model 5 of Table 2. In the table, the interaction of social media use and trust propensity is significant and negative ($\beta = -0.017$, $p < 0.05$) along with a significant change from model 4 to model 5 ($\Delta\chi^2 = 4.66$, $p < 0.05$). This

Table 2
Results for hypothesis testing (n = 18,873).

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Offline social network	Entrepreneurial entry				
Social media use	0.039***	0.050**	0.047**	0.050**	0.051**	0.048**
	(0.005)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Offline social network			0.084**			0.084**
			(0.035)			(0.035)
Trust propensity				-0.004	0.004	0.005
				(0.020)	(0.020)	(0.020)
Social media use* Trust propensity					-0.017**	-0.017**
					(0.008)	(0.008)
Gender	-0.048***	0.319***	0.323***	0.321***	0.327***	0.330***
	(0.018)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)
Age	0.002***	-0.033***	-0.034***	-0.033***	-0.033***	-0.034***
	(0.001)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Age squared	-0.000***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Educational level	0.182***	-0.543***	-0.559***	-0.541***	-0.515***	-0.532***
	(0.022)	(0.111)	(0.112)	(0.112)	(0.112)	(0.112)
Personal income	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Family income	0.000***	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	7.301***	-1.337***	-1.952***	-1.333***	-1.382***	-2.001***
	(0.044)	(0.234)	(0.346)	(0.235)	(0.236)	(0.348)
Chi-square/F	84.33	241.27	247.31	241.30	245.96	252.07
Pseudo R-Square/R-squared	0.030	0.041	0.042	0.041	0.042	0.043
Log-likelihood/Adj R-squared	0.030	-2829.84	-2826.82	-2829.83	-2827.50	-2824.44
Observations	18873	18873	18873	18873	18873	18873

Notes: n refers to the sample size. Standard errors in parentheses.
* $p < 0.10$,
** $p < 0.05$,
*** $p < 0.01$

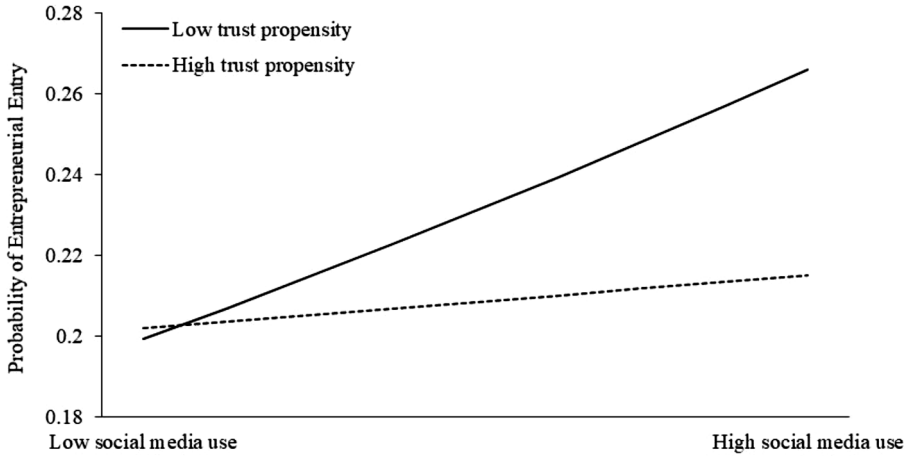

Fig. 2. Moderating effect of trust propensity.

Table 3
Robustness with alternative measurement of social media use (n = 18,858).

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Offline social network	Entrepreneurial entry				
Social media use	0.066***	0.110***	0.105***	0.111***	0.111***	0.106***
	(0.008)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Offline social network			0.081**			0.081**
			(0.035)			(0.035)
Trust propensity				-0.006	-0.004	-0.003
				(0.020)	(0.020)	(0.020)
Social media use* Trust propensity					-0.004	-0.004
					(0.012)	(0.012)
Gender	-0.053***	0.309***	0.313***	0.311***	0.312***	0.315***
	(0.018)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)
Age	0.002***	-0.032***	-0.032***	-0.032***	-0.032***	-0.032***
	(0.001)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Age squared	-0.000***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Educational level	0.171***	-0.576***	-0.591***	-0.573***	-0.570***	-0.585***
	(0.023)	(0.112)	(0.112)	(0.112)	(0.113)	(0.113)
Personal income	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Family income	0.000***	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	7.259***	-1.492***	-2.078***	-1.486***	-1.493***	-2.080***
	(0.045)	(0.241)	(0.349)	(0.242)	(0.242)	(0.350)
Chi-square/F	86.78	247.69	253.28	247.79	247.89	253.46
Pseudo R-Square/R-squared	0.031	0.042	0.043	0.042	0.042	0.043
Log-likelihood/Adj R-squared	0.031	-2826.08	-2823.28	-2826.03	-2825.98	-2823.19

Notes: Standard errors in parentheses. The sample size n varies because less missing values on the alternative measurement. Social media use is measured with the item "How important is the internet as a communication path?" The answer is scored on a 1–5 scale from "very unimportant" to "very important".
* $p < 0.10$,
** $p < 0.05$,
*** $p < 0.01$

provides support for hypothesis H4. In Fig. 2, we depict the moderating effects, where social media use of high trust propensity individuals has a weaker impact on entrepreneurial entry. Additionally, model 6 displays the results for all study variables, suggesting it is robust.

4.3. Robustness checks

We performed additional robustness checks by using alternative measurements for social media use and trust propensity. First, as social media is a communication channel on the internet, we used an item measuring the degree of importance of the internet as a communication channel as an alternative measure of social media use. The results of the analysis with alternative measures are in Table 3 and are largely consistent with our original analysis except for the moderating effect of trust propensity. Second, because a high trust propensity individual is more likely to trust others, and vice-versa for a low trust propensity individual, we used an alternative dichotomous measure of whether people are mostly trustworthy or cautious when getting along with others for trust propensity. The results of the analysis with the alternative measure of trust propensity are reported in Table 4 and offer support for the moderating effect of trust propensity.

4.4. A two-stage least squares instrumental variables (2SLS-IV) test on endogeneity

We assessed endogeneity issues using the two-stage least squares instrumental variables (2SLS-IV) approach. There is a possibility that social media use may not be fully exogenous and could be under the influence of certain unobservable characteristics that also influence offline social network. Following prior literature (Semadeni et al.,

Table 4
Robustness with alternative measurement of trust propensity (n = 18,810).

	Model 1	Model 2	Model 3
	Entrepreneurial entry		
Social media use	0.049**	0.092***	0.089***
	(0.020)	(0.026)	(0.026)
Offline social network			0.077**
			(0.035)
Trust propensity	0.023	0.069	0.069
	(0.079)	(0.081)	(0.081)
Social media use* Trust propensity		-0.077**	-0.077**
		(0.031)	(0.031)
Gender	0.322***	0.320***	0.323***
	(0.081)	(0.081)	(0.081)
Age	-0.034***	-0.034***	-0.034***
	(0.004)	(0.004)	(0.004)
Age squared	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)
Educational level	-0.545***	-0.529***	-0.544***
	(0.112)	(0.112)	(0.112)
Personal income	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
Family income	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
Constant	-1.330***	-1.468***	-2.031***
	(0.238)	(0.244)	(0.353)
Chi-square	243.00	249.34	254.43
Pseudo R-Square	0.041	0.042	0.043
Log-likelihood	-2816.81	-2813.65	-2811.10

Notes: Standard errors in parentheses. The sample size n varies because less missing values on the alternative measurement. Trust propensity is measured with the item "In general, do you think that most people are trustworthy, or it is better to take greater caution when getting along with other people?". We code 1 for the answer "Most people are trustworthy" and 0 for "The greater caution, the better".
* $p < 0.10$,
** $p < 0.05$,
*** $p < 0.01$

Table 5
The results of instrumental variable analysis (n = 18,873).

	Model 1 (First stage)	Model 2 (Second stage)
	Social media use	Offline social network
Online work	0.205***	
	(0.005)	
Online entertainment	0.035***	
	-0.006	
Social media use		0.071***
		(0.008)
Gender	-0.110***	-0.046***
	(0.018)	(0.018)
Age	-0.027***	0.004***
	(0.001)	(0.001)
Age squared	0.001***	-0.000***
	(0.000)	(0.000)
Educational level	0.628***	0.148***
	(0.024)	(0.023)
Personal income	0.000***	0.000***
	(0.000)	(0.000)
Family income	0.000*	0.000***
	(0.000)	(0.000)
Constant	3.509***	7.183***
	(0.044)	(0.049)
Chi-square/F	5713.03	87.61

Notes: Standard errors in parentheses.
* $p < 0.10$,
** $p < 0.05$,
*** $p < 0.01$

2014), we treated social media use as an endogenous variable and re-assessed our results on offline social network. In our model, we identified two instruments to investigate potential endogeneity issues.

To investigate endogeneity, we used two instrumental variables (IV): (1) online work and (2) online entertainment. We operationalized the two IVs through the frequency of using the internet to work and the frequency of using the internet to entertain, respectively. First, as people can work or entertain on social media, we suggest that these two IVs are correlated with social media use and satisfy the correlation with the endogenous variable. Second, the IVs should not be directly correlated with the error terms of estimations on offline social network because learning and entertainment are not the direct social activity but instead the users aim to learn and to entertain. Hence, online learning and entertainment should not directly impact offline social network in a strong manner.

Empirically, in the first stage result in model 1, the results of the instruments on the potentially endogenous variable are, by and large, significant, suggesting the relevance of the instruments. Also, the results of Cragg-Donald F-statistics show that the instruments are strong ($F = 9342.66$). Moreover, the results of overidentification estimations suggest that the instruments are exogenous (Sargan statistics $p = 0.55$) (Semadeni et al., 2014). Thus, the results statistically suggest that both IVs satisfy the conditions of qualifications as IVs. Last but not least, both Durbin ($p < 0.01$) and Wu-Hausman ($p < 0.01$) tests confirm the endogeneity. The results of the IV estimation, reported in Table 5, are similar to the previous result. The outcomes of the two-stage estimations are consistent with the regression outcomes in the previous analysis. These outcomes empirically confirm that social media use positively affects offline social network, even after considering the endogeneity issues.

5. Discussion

5.1. Implications of the findings for the literature and practice

Despite social media being dominated by weak ties and the substantial noise of false, inaccurate or even fake information, our findings reveal that individuals with higher social media use tend to conduct entrepreneurial entry. It is consistent with the positive benefits of higher social capital or a larger social network (Galkina & Chetty, 2015; Johanson & Vahlne, 2009). Our results suggest that higher social media use indicates a higher probability of a larger social media (online) network, which provides higher social capital that benefits entrepreneurial entry.

Our findings that the positive influence of offline social network on entrepreneurial entry is also due to the network effect extends the research on the offline social networks of entrepreneurs (Chell & Baines, 2000; Dubini & Aldrich, 1991; Klyver & Foley, 2012). The literature suggests that social networks influence entrepreneurs' decision making and actions, and entrepreneurs require a strong social network to succeed in the entrepreneurial process (Jenssen & Koenig, 2002; Witt, 2004). Our findings, using instrumental variable analysis, suggest that higher social media use enhances individuals' offline social networks. This finding is consistent with past evidence that users often used social networking sites to connect with family and friends (Subrahmanyam et al., 2008). Unlike past studies that simply indicate an overlap between social media and offline network associates (McMillan and Morrison (2006)), our instrumental variable analysis helps to establish the impact of online networks on offline networks, suggesting social media enhances offline networks and subsequently entrepreneurial entry. Specifying mediation models is essential to the advancement of research domains and hence this study helps research on social media in entrepreneurship to further develop beyond its nascent stage (Yu et al., 2018).

Finally, our finding that trust propensity moderates the influence of social media use on individuals' entrepreneurial entry suggests that social media, which is dominated by weak ties and substantial noise from false, inaccurate or even fake information, is in fact beneficial to entrepreneurial entry. Such benefit may be smaller for people who are

more trusting. Specifically, our findings indicate that an individual's trust propensity plays a critical role in their use of social media and the outcome they experience.

Our results have important implications for practice. First, as social media can help individuals build networks that help with business resources and information both locally and remotely, people can target social media to help refine and validate entrepreneurial ideas and secure much needed resources for entrepreneurial launch. Second, as individuals' trust propensity enhances or hinders the positive role of social media on entrepreneurial entry, potential entrepreneurs may specifically aim to apply more caution to their online contacts to obtain higher benefit from social media use for entrepreneurial entry. Finally, given the role of social media in entrepreneurship, social media platforms may more specifically promote and facilitate networking of individuals to increase the level of entrepreneurial activity that can be enhanced via social media.

5.2. Limitations

Our study has limitations and offers opportunity for further inquiry. First, theoretically, we used social network theory, and another theoretical framework may identify other possible mechanisms. For instance, an identification based theory may argue that social media use's influence on entrepreneurial entry could also be attributed to identity change in individuals due to network associates as theorized by Mahto and McDowell (2018). However, given the lack of information about network associates on social media, identity change may be a remote probability. Empirically, we operationalized offline social networks using gift expenses that serve as a proxy for the offline social network. The large nationally representative survey we used contained only expenditure on family relationships, yet individuals also need to expend similarly on gifts, eating out, etc. to maintain relationships with work acquaintances, partners, clients, former school mates, distant relatives, etc. Hence, the expenditure on other relationships may mirror the expenditure on family relationships captured by this survey. We acknowledge these limitations and call for future research to search for alternative measures of social networks in other datasets. Third, we caution readers in generalizing the findings of our study outside of China due to the study sample. China is different from other countries in terms of its cultural, legal, and social environment, which may affect respondent behavior on social media and entrepreneurial launch. Thus, we suggest scholars empirically examine our model in other cultures.

6. Conclusion

Our study addresses the effect of social media on the entrepreneurship process, especially the pre-launch phase, by assessing the link between social media use and entrepreneurial entry. We use social capital theory to explain the link between social media use and entrepreneurial entry. We further argue that this relationship is contingent on individuals' trust propensity. Thus, individuals with low trust propensity are more likely to benefit from social media use for entrepreneurial entry compared to individuals with high trust propensity. We also find that social media use strengthens individuals' offline social networks, which further aids their entrepreneurial entry. In conclusion, a key message is that social media can help individuals' transition to entrepreneurship.

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